

WHITE PAPER

REALIZING THE POWER OF VIRTUAL CARE

Technology that connects care providers and patients is here to stay.



EXECUTIVE SUMMARY

Healthcare organizations expanded virtual care in 2020 at an astounding rate, allowing them to continue caring for patients during the pandemic in ways that addressed safety, convenience and efficiency.

In the process, many providers assembled disparate, disconnected solutions and technology that created silos, inconsistent and poor workflows and less-than-optimal protections for privacy and security. The challenge for providers now is to knit those hastily erected, crisis-driven systems into a cohesive, intentional and strategic platform to provide exceptional virtual care to their patients.

There are compelling reasons for healthcare technology leaders to refine the IT infrastructure that supports virtual care, not in the least because it is poised to become highly competitive due to its effectiveness and efficiency for the

provider and convenience for the patient. Providers that can deliver a high-quality digital experience will position themselves as front-runners for both consumers and caregiver talent.

While organizations refine the technologies underpinning virtual care, they also will need to establish appropriate policies and procedures. Together, these will facilitate compliance with regulations and best practices, and will help organizations increase adoption of virtual services by patients and clinicians.

From a competition perspective, virtual care has the potential to significantly alter the healthcare landscape. Maturing capabilities, combined with patients' embrace of virtual care, open the door to new competitors, disruptions and enhanced consumer expectations. As the field continues to evolve, providers must incorporate these considerations into their post-pandemic business strategies.

Virtual Care Advances and Evolves

The expansion of virtual care that accompanied the coronavirus pandemic was both multidimensional — providers increased speed, volume and use cases — and transformative. The consensus is that even if virtual care use does not remain at 2020 peaks, it is extremely unlikely to revert to pre-pandemic levels, simply because it delivers myriad benefits to patients, clinicians and healthcare organizations.

While the rapid growth of telehealth received much attention, the pandemic also accelerated adoption of many other forms of virtual care, including remote patient monitoring, virtual rounding and eICUs. In the future, virtual care could represent as much as \$250 billion of spending on healthcare, up from \$3 billion currently, [McKinsey reports](#).

Before the pandemic, virtual care was largely limited to rural environments, primarily as a result of reimbursement restrictions from the Centers for Medicare and Medicaid Services (CMS). Even so, [American Hospital Association](#) figures show that, year over year, telehealth had increased steadily. In 2010, 35 percent of hospitals had fully or partially computerized telehealth systems, increasing to 61 percent in 2015 and 76 percent in 2017. Similarly, [the AHA](#) reported that 61 percent of hospitals had remote patient monitoring capabilities as of 2017.

When the pandemic hit, CMS removed many of its restrictions on telehealth, providing temporary approval of [more than 80 new services](#). CMS also allowed physicians to practice medicine across state lines and eased compliance issues related to HIPAA. Holistically, easing restrictions facilitated a dramatic expansion of virtual care. Providers could be reimbursed at the same rate as in-person care, physicians could continue seeing patients, and patients could receive the care they needed, safely.

In April 2020, telehealth visits peaked, accounting for just over 50 percent of all physician visits, according to research by

[The Chartis Group and Kythera Labs](#). Although the majority were mental health visits, other specialties included neurology, gastroenterology, internal medicine, pulmonology, family medicine and pediatrics, demonstrating the broad appeal and application of telehealth services.

Patients embraced the ease, safety and convenience of telehealth. In 2019, only 11 percent of individuals had used telehealth, but that jumped to 46 percent during the pandemic, [according to McKinsey](#). Research consistently shows that patients want telehealth to be widely available. [McKinsey](#) found that 76 percent of adults are interested in using telehealth, and [YouGov](#) found that 74 percent would be comfortable discussing health issues with a clinician online or on the phone.

Across the country, especially in rural areas, telehealth has significantly expanded options and accessibility for patients and clinicians. Videoconferencing and collaboration platforms, integrated with EHRs, make it easy for patients to connect with general practitioners and specialists who may not be available in the immediate area. Clinicians in rural areas can use telehealth to consult with remote specialists, bringing the expertise of larger health systems to underserved areas.

Remote patient monitoring, which leverages videoconferencing and collaboration platforms and connected medical devices to manage at-home care, is also becoming a more important component of healthcare offerings. Virtual support for chronic disease management, medical management and care coordination are the top three use cases for telehealth that physicians want to continue after the pandemic, according to the [COVID-19 Telehealth Impact Study Work Group](#). Physicians also value the effectiveness of virtual care for chronic disease management, with 84 percent of urban physicians saying it allows them to provide quality care.

Other areas of virtual care include:

- **Virtual rounding**, which allows clinicians to see patients

without having to visit rooms in person.

- **Telesitting**, which enables one person to monitor multiple patients (for example, to prevent them from getting out of bed against physicians' orders), eliminating the need to staff one person for each room.
- **eICUs** supported by command centers and in-room audiovisual solutions, which extend critical-care staffing and expertise, and facilitate data-driven care.
- **Telestroke care**, which enables on-call neurologists to determine quickly if a stroke has occurred in order to institute appropriate protocols.

The rapid scale-up of virtual care during the pandemic meant that many providers rolled out programs without well-planned strategies and the proper supporting infrastructure. Increasing from a few video visits per week to 50,000 per month, or from 200 virtual visits per day to 3,000, was not unusual. And they did this while also shifting many employees to remote work, deploying external COVID-19 testing sites, and building out



The percentage of consumers who are open to remote monitoring of ongoing health issues through at-home devices¹

assessments and dashboards in their electronic medical records to manage coronavirus patients in the hospital. So not only did they do it fast, but they also were unable to focus on it.

As a result, organizations often deployed these systems in silos, without taking best practices for IT and procedures into account. Many providers now have an excessive number of virtual care systems that are not integrated, consistent or optimized. In many cases, organizations have not developed efficient workflows and processes to deliver and manage virtual care efficiently and securely.

Their priority now should be to streamline and simplify systems appropriately — starting, perhaps, by adopting a single, end-to-end platform to support telehealth services. It is essential that organizations prioritize patient privacy and cybersecurity concerns, which may not have received appropriate oversight during the crisis. For example, to support rapid telehealth rollouts, many organizations deployed platforms that aren't HIPAA compliant. These must now be incorporated into existing cybersecurity strategies and aligned with regulations, industry standards and IT best practices.

Virtual care is poised to continue its dramatic expansion. Hospitals and clinics that seek to take full advantage of these opportunities need to begin the work now to develop mature, robust platforms capable of sustaining both current services and future expansions.

Shifts in the Competitive Landscape

The competitive landscape is changing quickly, and virtual care is a significant driver. Healthcare providers must adapt their competitive analyses to this new reality and strategically position their virtual services to new and existing patients.

New competitors are in play, among both traditional providers and newcomers intent on disrupting conventional offerings. Just as virtual care facilitates ease of delivery and new services, it also lowers the industry's barrier to entry.

Consumers' evolving and expanding expectations put pressure on providers to deliver a seamless digital experience. [Accenture research](#) shows that 26 percent of patients would choose a new provider in order to obtain a high-quality digital experience, a figure almost certain to increase.

While patients are eager to embrace virtual care, some research indicates a gap exists between patients' attitudes and actual use of telehealth. That gap may require providers to develop awareness and education campaigns about their virtual care services, benefits, how to utilize them and how the provider will protect patient privacy.

Virtual care also reduces the geographical limitations that have traditionally defined healthcare markets. Although patients still face the constraints of insurance, they are empowered to go farther afield in search of providers, particularly specialists. This new, wider scope will influence the way providers compete for patients.

The Fundamentals of Virtual Care Technology

When the pandemic made it necessary to scale virtual care at a breakneck pace, healthcare organizations rose to the challenge. The goal now is to build foundations for virtual care that are streamlined, secure and sustainable.

Software Platforms

For many organizations that escalated virtual care rapidly in 2020, the most valuable investment to support the refinement and expansion of these services is an end-to-end platform. Typically provided via Software as a Service, these platforms house virtual care applications and facilitate workflows. Currently, only a small percentage of physicians use a dedicated telehealth solution, and a smaller percentage use an EHR telehealth module, according to the [COVID-19 Telehealth Impact Study Work Group](#).

These platforms also facilitate ancillary activities that support virtual care, such as making appointments, ordering labs and other tests, sharing test results, ordering and following up on medication, and logging patient information. This makes workflows more efficient, which can help to increase adoption by clinicians.

Integration, particularly with EHRs, is a best practice for successful virtual care delivery. The majority of physicians cannot access telehealth solutions directly from the EHR,

which they cite as a barrier to maintaining telehealth after the pandemic, according to research by the [COVID-19 Telehealth Impact Study Work Group](#). EHR integration means the videoconferencing and collaboration platform primarily serves to provide the virtual meeting space, while the clinician conducts the visit and manages patient information within the EHR.

Remote patient monitoring benefits from a similar end-to-end software solution. A solution in this category may have the additional capability of allowing patients to transmit biomedical data to the provider, who can then ensure progress matches the care plan or modify the care plan if needed.

Providers should also have access to web-based applications that interface with mobile phone apps and Bluetooth-enabled biomedical devices to verbally set reminders for patients. This type of support can increase the likelihood that patients will follow their discharge plans and adhere to their plan of care. For clinicians, apps can also record the length of the session

and send that information to the EHR, reducing the amount of administrative work that they must perform.

Collaboration platforms also support virtual rounding. This proved to be a critical strategy during the pandemic, when personal protective equipment was in short supply. It will continue to be a valuable option for clinician efficiency and for patients who require isolation. Initially, many providers assembled their own virtual rounding systems, but they now have access to a larger selection of enterprise-class solutions that offer a more tailored experience for users and easier IT management.

Endpoint Devices

Clinicians and patients can join virtual sessions with simple setups, such as mobile phones, tablets and laptops. Many providers, however, prefer more robust arrangements, such as multiple monitors that make it easier to simultaneously use the videoconferencing platform, enter notes into the EHR and consult images or other materials.

Audiovisual technologies can enhance the quality of the experience significantly, through stand-alone cameras and microphones that allow physicians to create a mini-studio from which to provide care. For other virtual care services, such as eICUs and telesitting, digital cameras are essential, allowing clinicians and sitters, respectively, to remotely observe several patients at once.

In eICU rooms, caregivers in a command center can observe patients on multiple monitors via high-definition, pan-tilt-zoom cameras in patients' rooms. Locating clinicians within the command center not only extends the reach of critical-care staff, but also allows them to make more data-driven decisions about care — for example, using platforms that analyze data from several sources to identify trends and alert clinicians when patients need attention.

PTZ cameras expand clinicians' ability to monitor patients closely for longer than they could if they physically had to visit each room. The quality of PTZ cameras allows for extremely close observation, enabling clinicians in the command center to observe a patient's pupils or read a prescription bottle. Cameras may be augmented with monitors to facilitate two-way video communication.

Remote patient monitoring is increasingly reliant on connected biomedical devices to facilitate oversight and report health markers to clinicians. These devices may transmit data directly to the provider or to the cloud, or the patient may share data with the provider directly.

Despite the development of medical-specific technologies, a survey by the [COVID-19 Telehealth Impact Study Work Group](#) found that the primary remote sensor technology that physicians use to support patients in virtual care is simply a smartphone camera. Other primary devices include blood pressure cuffs, body weight scales, pulse oximeters, smartphone microphones, thermometers and heart rate monitors.

Security

The pandemic intensified cybersecurity concerns throughout the healthcare industry. Organizations faced multiple

Understanding Virtual Care in Rural Areas

Virtual care is often perceived as particularly beneficial for rural patients, bringing access to specialists and reducing the need to travel. Although that is certainly the case, providers seeking to serve rural markets must understand potential challenges.

During the pandemic, rural patients used telehealth less than urban patients, perhaps because of the lack of widespread high-quality internet access. In July 2020, urban areas used telehealth for primary care visits 28 percent more than rural areas, according to research from [The Chartis Group and Kythera Labs](#).

In a survey by the [COVID-19 Telehealth Impact Study Work Group](#), rural physicians were more likely than urban or suburban physicians to cite patients' barriers to telehealth, including:

- Lack of access to technology (78 percent)
- Lack of digital literacy (68 percent)
- Lack of broadband/internet access (72 percent)
- Lack of awareness/understanding of telehealth offerings (43 percent)

The same survey found that rural physicians were more likely to cite "clinician dissatisfaction" as a barrier to telehealth after the pandemic: 29 percent, compared with 24 percent of urban physicians and roughly 23 percent of suburban physicians.

These divides are important to address because, for rural patients, better access to care is more than a matter of convenience. The [Centers for Disease Control and Prevention](#) reports that people in rural areas have poorer health habits, less access to healthy foods and a greater likelihood of dying prematurely from cancer, heart disease, stroke, chronic lower respiratory disease or injury.

Virtual care services, particularly telehealth and remote patient monitoring, could be crucial in closing these gaps.

challenges: new threats, an expanded attack surface and new vulnerabilities, including remote employees, rapid expansion of virtual care and suspension of certain HIPAA requirements for telehealth.

For cybercriminals seeking to sell data on the dark web, medical records are among the most lucrative targets. Hackers quickly adapted their attacks to the operating environment of the pandemic. In addition to increased phishing attacks, they seek to exploit vulnerabilities in the devices, networks and software used for telehealth services.

The risks are especially high when employees are using disparate tools and inconsistent procedures in nascent programs that have not yet established strong security controls, exactly the type of environment in which many telehealth programs expanded during the crisis. In addition to deploying the appropriate security solutions, organizations must ensure every employee is well trained in security best practices, particularly how to identify and avoid phishing attacks.

Virtual care should be subject to data encryption at rest and in transit. Remote monitoring devices, together with devices



The percentage of telehealth users who report a high level of satisfaction with this method of care delivery²

used for telehealth, virtual rounding and eICUs, should have regular software updates to ensure that patches are installed appropriately. Networking controls and best practices, such as multifactor authentication, should be in place for all virtual care solutions.

Providers should expect the suspension of HIPAA enforcement in connection with services deployed during the pandemic to be temporary. In the future, these will be subject to the same HIPAA compliance as the rest of the organization.

Finally, it is important to remember that patients are also cognizant of privacy and cybersecurity when it comes to their medical records. Hospitals enjoy a relatively high level of trust among consumers, 84 percent of whom trust hospitals "some" or "very much" to keep their digital information safe, [Accenture found](#). But that percentage drops for other areas of healthcare, such as nonmedical staff at doctor's and provider's offices (63 percent). These perceptions matter as consumers begin to seek out providers offering more comprehensive digital services.

Strategies for Virtual Care Success

Healthcare organizations could potentially see major gains from the expansion of virtual care. To make the most of these opportunities, providers must create more successful digital experiences, understand the wants and needs of stakeholders and strategize on ways to overcome potential challenges to adoption.

The Digital Experience

The importance of patients' digital experience, throughout their engagement with a healthcare organization, cannot be overstated. Fifty percent of patients say a negative digital experience with a healthcare provider may ruin their entire experience, [according to Accenture](#), while a positive digital experience is a major influence for 39 percent of patients.

Healthcare organizations must bring the same approach to patients that retailers have applied to consumers. Providers must deliberately and strategically consider the digital experience as something that begins with the patient's first moment of engagement. The most innovative hospitals are building digital experiences that give patients a choice between virtual or inpatient channels from the outset.

The hindrance, for many organizations, is an existing system that has not consistently prioritized digital experiences. For example, consumers have steadily increased their use of wearables, digital blood pressure monitors and similar devices, yet only [11 percent](#) say their healthcare providers have recommended digital tools to manage health.

It is also important to recognize that consumers' perceptions of healthcare technology do not exist in a vacuum. Because consumer trust and confidence in technology companies more

Hospital-at-Home Care Poised to Expand

The recent expansion of virtual care has also accelerated the hospital-at-home model, which allows patients to receive acute care at home — less expensively, with better outcomes and a more positive patient experience.

Internet of Medical Things vendors are working quickly to meet the demands in this space. By 2024, 47 percent of patients who receive care at home will do so with the use of connected devices, according to [Kagan](#) estimates.

CMS established its Acute Hospital Care At Home program in November 2020, expanding the Hospitals Without Walls program that it developed in response to the pandemic. The program allows care for [more than 60](#) acute conditions to be delivered in the home setting, provided that healthcare organizations meet several requirements, including daily monitoring that can be conducted in person or remotely.

As the model takes hold and new technologies emerge, healthcare organizations will be able to diversify the types of at-home care they can support. Already, these span such disparate needs as short-term acute inpatient-level observation and palliative care; at-home care in the daytime, complemented by in-hospital care at night; pediatric care; and rehabilitation, among others.

generally has eroded in recent years, healthcare organizations must be intentional in embodying and communicating values of transparency, privacy and consumer protection.

Overcoming Adoption Challenges

Although many experts expect virtual care to become a common practice, healthcare providers should not regard this outcome as a certainty. Buy-in from patients and clinicians will determine how large these programs become, so it is critical to step back and redesign systems, if necessary, to secure users' confidence. Implementing the right technology solution is a major part of this process because it can alleviate friction and increase efficiencies that are important to stakeholders.

In research by the [COVID-19 Telehealth Impact Study Work Group](#), 52 percent of physicians agreed that telehealth had increased their work satisfaction. Rural physicians, however, were less likely to say that learning to use telehealth was easy, that they can continue to use it in financially viable ways and that

they are motivated to use telehealth. All of these findings indicate a strong need for providers to understand clinician sentiment, especially its variation among markets.

Providers will also need data that allows them to understand who is using virtual care services, why and what their experiences are. For example, research from [The Chartis Group and Kythera Labs](#) shows that only 5 percent of telehealth visits were from new patients. Variations also exist among markets. Rural physicians reported that 65 percent of their telehealth visits are with established patients, versus 44 percent for urban physicians and 50 percent for suburban physicians, according to the [COVID-19 Telehealth Impact Study Work Group](#).

Finally, providers should facilitate patient engagement with tools such as chatbots and with dedicated information on websites to provide resources, best practices and answers to frequently asked questions about telehealth and other virtual care services.

CDW: We Get Virtual Care

With more than 15 years of partnership with healthcare organizations, CDW has developed an extensive, healthcare-specific portfolio that allows us to assemble the best solution for each individual organization. We have partner relationships with every major vendor in the healthcare technology space and, in recognition of the significant and ongoing changes occurring in healthcare delivery today, we are continuously adding new partners, with emphasis on virtual care solutions.

We offer:

- A vendor-neutral approach
- Solution development based on desired outcomes and use cases
- Holistic platforms that support end-to-end workflows

Our goal is to deeply understand each customer's objectives, opportunities and obstacles so that we can develop the most appropriate recommendations for each specific environment. To that end, we offer two types of service:

- Our Virtual Care Workshop helps us understand desired outcomes, lines of business and use cases that inform our technology recommendations.
- Our Virtual Care Consulting Services offer valuable guidance on how to map your technology solutions to your desired outcomes.

CDW Amplified™ Services

CDW Amplified™ Workspace services employ a comprehensive approach that enables employees to work from anywhere, on any device.



DESIGN Platforms

Our design and planning workshops help you align your business goals and needs to create an outcome-based collaboration strategy based on end-user satisfaction.



ORCHESTRATE Connectivity

Our certified experts help you create an implementation plan, deploy your fully configured solutions and help ensure adoption success among employees.



MANAGE Collaboration

Our certified experts provide 24/7/365 support and routinely track, measure and optimize your digital workspace solutions to help you exceed business goals.

Sponsors



Learn more about how CDW can help your organization secure and optimize its delivery of virtual care.

